



Fish & Wildlife *News*



SPOTLIGHT

Endangered Species Act 6

History,
Milestones,
Art and more

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On the cover: While recovery is the ultimate goal, a more complete measure of Endangered Species Act success includes the number of species that are no longer declining, have stable populations, or have gained a solid foothold on the path toward recovery and are improving in status. The Devil's Hole pupfish and Puerto Rican parrot represent ESA success in preventing extinction; the black-footed ferret and the karner blue butterflies represent the success of improving and stabilizing populations; and the American alligator and gray wolves represent those species who made a full recovery under the ESA.

ILLUSTRATION: MEREDITH GRAF

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SPOTLIGHT



TOM KOERNER/USFWS

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40 years at the forefront of wildlife conservation
by VALERIE FELLOWS and SARAH LEON



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Endangered Species Act: Hope for the Underdog

On December 28, 1973, the United States made a historic commitment.

On that day, President Richard Nixon signed into law the Endangered Species Act (ESA), a bipartisan declaration that we would do our absolute best to conserve the nation's rich diversity of wild life no matter how seemingly insignificant.

Thanks to the now 40-year-old ESA we can see success in icons of the wild-life world: Bald eagles and peregrine falcons soar above; gray wolves prowl the Rocky Mountains, Great Lakes and Pacific Northwest; manatees

“If we want Canada lynx, if we want bull trout, if we want grizzlies or sage-grouse, then we have to make deliberate choices to make a place for them in the world. These choices will involve sacrifice.”

grace the coastal waters of the Gulf and South Atlantic; wild salmon and steelhead continue their annual migratory rituals. Virtually every corner of our nation can take pride in being part of the recovery process sparked by the ESA.

But it is also clear, that back in 1973, the legislators understood Aldo Leopold's admonishment that the essence of intelligent tinkering is to save all the pieces. And so, the ESA they wrote has also recovered lesser-known species like the Magazine Mountain shagreen snail, Tennessee purple coneflower, karner blue butterfly and Higgins eye pearlymussel.

While the ESA often provides the spark, the future of imperiled wild life depends more on us.

If we want Canada lynx, if we want bull trout, if we want grizzlies or sage-grouse, then we have to make deliberate choices to make a place for them in the world. These choices will involve sacrifice.

Humanity thrives on convenient slogans such as “win-win.” I wish it were that simple. It would make my job so much easier. We could have it all — development, timber, water, energy *and* the wild life we love. Of course, as long as we're dreaming, maybe we can bring back the passenger pigeon?

We can, and do, work together with partners, developers, landowners and industries to find compromises that balance the needs of imperiled species and economic growth. But balance implies compromise, meaning both human, economic aspirations and species conservation goals give way. For those who feel economic growth is too important to compromise, it is far easier to blame something other than our own greed and ambition. They blame a law they call inflexible, unworkable and unreasonable — the ESA becomes a perfect scapegoat.

But the ESA is not at fault. It is only a tool. When you are hammering a nail and an errant blow causes the nail to bend, it is more convenient to blame the hammer than to acknowledge the limits of the carpenter.

We face many challenges in conserving biodiversity: a changing climate, habitat loss, habitat fragmentation, species invasion, wild-life trade, disease, water scarcity, pollution, over harvest and human indifference. The ESA is not a challenge.

The ESA is a gift to the nation—an expression of our desire to conserve biodiversity, the health of the habitat and our willingness to work for it. For 40 years, it's been a symbol of the U.S. commitment and leadership in conservation.

We have seen it succeed and we have seen it fail. It has worked miracles, like restoring the California condor to western skies. But we have also seen the dusky seaside sparrow vanish from the landscape, the coastal marshes of Florida forever silent of their song. The James Hole pupfish and Delta smelt may be soon to follow.

What I love about the ESA is this—it offers optimism and hope. Hope for the underdogs. It is the last barrier to extinction, and represents our collective commitment to protect our nation's wild life for the future.

And the future will hold success and failure. The law will support both equally. The independent variable is our commitment as a nation. □

Local High School Helps Liven Up Coastal NC National Wildlife Refuges' Visitor Center

The Art Department at North Carolina's Manteo High School and Alligator River National Wildlife Refuge have teamed up to create a 6-foot -tall, 24-foot-long, three-dimensional mural which is on permanent display at the Coastal NC National Wildlife Refuges' Visitor Center on Roanoke Island. Artists from the high school donated almost 300 hours to paint the mural.

Soon after the Visitor Center opened to the public, refuge staff realized a large mural was needed for display above the information desk. Funding was not available for the mural, which, according to one price quote, would cost \$10,000, so refuge

staff started looking for volunteers. Recruitment for volunteer artists started at Manteo High School and ended there when the refuge found many willing and able artists.

Past Service employee and native plant expert Bob Glennon worked with the students to select appropriate habitats and plant/wildlife species. The refuge spent a few hundred dollars on canvas, paints and other needed supplies, instead of the thousands quoted. Resident volunteer George Harrison built the frames and stretched the canvas.

Then the students and their dedicated teacher, Robin York, painted.

They painted during school, on teacher work days and breaks, and after school. They finished in time to have the project displayed during lunch on the last day of school.

Volunteer Harrison spent a day and a half hanging the mural. A week later, it was featured at a reception for one of the Wildlife Art Expos at the Visitor Center.

The mural is a montage of six habitats from eastern North Carolina ranging from barrier island beaches of Pea Island National Wildlife Refuge to the Cypress/Gum Swamps of Roanoke River National Wildlife Refuge. Each habitat type features a native wildlife or plant

species. Three of the species insets were painted on separate canvases and mounted to the larger canvas, producing a 3D effect.

"This mural is simply incredible," says Refuge Manager Mike Bryant of Alligator River/Pea Island National Wildlife Refuges. "We're so proud of these students, and we're honored to have their work as a permanent part of our Visitor Center. Visitors are amazed this art was created by high school students, which

Jasmin Miller, AP Art student at Manteo High School, works with her painting of the alligator. At far right, teacher Robin York.



speaks volumes about the artistic talents of these young people and both the artistic and instructional talents of Robin York. What a great example of community partnerships!”

The Service didn’t just gain a mural. it now has a permanent connection with these young artists and their families. The students and their parents bring visiting aunts, uncles, cousins and friends to the Visitor Center to see “their” mural.

The visitors then hear staff tell them how appreciated the talents and hard work of the young artists are. Staff then tells them about national wildlife refuges and the importance of saving places for wildlife. □

BONNIE STRAWSER, Alligator River/Pea Island National Wildlife Refuges, Southeast Region



MORE INFORMATION

The Visitor Center, which covers refuges in North Carolina and southeastern Virginia, partners with the Dare County Arts Council and the Coastal Wildlife Refuge Society to host Wildlife/Wildlands of Eastern North Carolina Art Expos throughout the year. All artwork is for sale through the Wild Things Gift Shop. Art Expos run May–June, July–August, September–October, and November–April.

Partnership ‘Brings’ 8,000 Students to J.N. “Ding” Darling National Wildlife Refuge

Discovery Education, the national education powerhouse, and the Recreational Boating and Fishing Foundation, a partner with the Service, helped an estimated 8,000 students from 33 states visit the J.N. “Ding” Darling National Wildlife Refuge on June 5. The students’ field trip left no footprints, they received no bee stings or ant bites, and they all got home in time for supper. They visited the refuge as part of a “virtual field trip” conducted live on the Internet with the assistance of Discovery’s media support and Service staff.

Supervisory Refuge Ranger Toni Westland and naturalist Brie Kaufmann from Tarpon Bay Explorers (the refuge’s concessionaire), helped lead the virtual field trip and interact with the students online. Because “Ding” Darling is part of the largest undeveloped mangrove ecosystem in the United States and is world famous for its migratory bird populations, the virtual field trip highlighted how mangroves are the keystone of this warm water estuary. Classrooms participated virtually through a live chatroom and Twitter where their questions were answered live. A link to the virtual field trip can be found at new.livestream.com/DEN/events/2072576.



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The field trip was made possible by the joint Discovery Education/Recreational Boating and Fishing Foundation’s Explore the Blue Program. This educational program seeks to educate youth about aquatic stewardship and aquatic sciences. Funding for this program came from the Service’s National Outreach and Communication Program.

In July, the refuge and its concessionaire also hosted the winners of the nationwide “Explore the Blue Water Challenge” contest. The competition was open to grades 6-8 and challenged students to identify and research a local water-related issue, develop and implement an action plan that created positive change on the issue, and showcase their project

After 8,000 students participated in a virtual field trip to “Ding” Darling Refuge, a group from Texas won a trip to the refuge.

by creating and submitting a short video. Members of “Team Arsenic Arresters” of Whiteface Middle School in Whiteface, Texas, were selected as the grand prize winners of the competition for their project detecting and addressing arsenic levels in local soil and drinking water. The students and teacher received an all-expense paid trip to the refuge courtesy of the Explore the Blue Program. □

BRIAN BOHNSACK, External Affairs, Headquarters

Service Helps Students Build Natural Playscape in Fairbanks

The Fairbanks, Alaska, Youth for Habitat Program is an annual program for area youth ages 13 and 14. Two entry-level sessions offer the students a wide variety of experiences helping with habitat restoration and aquatic research. In the two-week advanced session, returning students are given the challenge of creating a single project from design to implementation.

Seven students in the 2013 advanced program took on an ambitious project to design and create a natural playscape. The J.P. Jones Community Center in Fairbanks was chosen as the location due to its urban setting and lack of outdoor play facilities for area children.

Youth for Habitat students Daniel Woolfe and Piper Brase confer on the design of a labyrinth to be part of a natural playscape.

A natural playscape was chosen for the project to help meet Service priorities to get young children reconnected with nature. A natural playscape is defined as an outdoor play space that incorporates natural materials, native plants, rolling hills and trees with as few manmade components as possible.

Two intense days of research and discussion helped the student team decide on the components for their playscape. In the center would be a labyrinth with play structures around the edges including a hill with stepping stones and an area for sledding, a sandbox surrounded with vertical stumps to double as a climbing structure, an obstacle course made of driftwood, spruce log benches and a living willow tunnel leading into the labyrinth.

After a stressful presentation of their ideas and approval by the community center board of directors, they had just over six days to complete the plan!

Sub-teams of two students took the lead on different aspects of the playscape. They were each tasked with developing a plan of action including creating a materials list, locating sources for materials, developing a timeline for completion and guiding the rest of the group through the construction phase. The team chose to use abundant natural materials such as willow and driftwood from the Chena River to save money and build on our natural playscape theme.

With help from the community and the Service, the students finished their work and the natural playscape now adorns the community center.

Participating students gained construction skills, learned about teamwork and developed a great deal of confidence in their abilities to successfully complete a daunting challenge. In addition, they made a permanent improvement to an underserved part of the community and provided a safe and natural outdoor experience to other children. □

LAUREL DEVANEY, Fairbanks Fish & Wildlife Field Office, Alaska Region

Service Fishing Partner Plans Five-Year Hispanic Outreach Effort



Funding from the Service's National Outreach and Communication Program will help the Recreational Boating & Fishing Foundation (RBFF) develop a five-year Hispanic outreach plan designed to increase fishing and boating participation by this rapidly growing population segment. RBFF announced this effort in June at its mid-summer Board of Directors meeting, including ex-officio member Rowan Gould, Deputy Director of the Service.

Research continues to document the underrepresentation of Hispanics in many outdoor recreation activities, which has many long-term ramifications for conservation and recreation in the United States. For example, Hispanics comprised only 5 percent of the total angler population, according to the 2011 National Survey of Fishing, Hunting and Wildlife Associated Recreation. Although the Service's National Survey of Wildlife-Related Recreation found that fishing participation had increased since 2006, participation by Hispanics has continued to remain low.



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Because fishing license and boat registration revenue is some of the primary funding sources for many state fish and wildlife agencies, it is very important to increase Hispanic participation in these activities.

RBFF hired the nationally known marketing firm Lopez Negrete to develop the outreach plan. Lopez Negrete is the nation's leading Hispanic marketing firm. The plan will use a wide range of traditional and social media to engage the Hispanic population and encourage their participation in fishing and boating.

RBFF and Lopez Negrete hosted a webinar in early August for stakeholders, including many Service offices and programs, to share Hispanic marketing insights and to update stakeholders on the status of the outreach plan. RBFF will continue to provide updates on the outreach plan and progress in the coming months and years. These reports and other information can be found on their website <www.takemefishing.org>. □

Habitat Conservation Plan Allows for Development While Protecting California Condor, 24 Other Species

Fifteen years in the making, the Tehachapi Uplands Multiple Species Habitat Conservation Plan, prepared by Tejon Ranch Company and partner DMB Pacific Ventures in cooperation with the Service, provides specific protections for 25 species, including the California condor, while permitting limited development and other land use activities on designated ranch lands. It protects wildlife habitat and enhances species conservation on 141,866 acres of ranch lands and is the first such plan to focus primarily on conserving habitat and creating a study area for the iconic California condor.

Tejon Ranch, home to farming operations, cattle grazing, resource extraction operations, recreational activities and limited real estate development, is the largest contiguous expanse of private land in California and its 270,000 acres provide habitat to hundreds of plant and animal species.

The Service's approval of the plan provides a 50-year incidental take permit to the company, which gives it certainty it will be in compliance with the federal Endangered Species Act (ESA) when it proceeds with various land-use and development activities. The permit does not authorize lethal take of a condor, nor does it allow take caused by hunting or mineral extraction.

Of the 141,866 acres covered by the plan, more than 129,000 acres will be conserved in perpetuity. The conserved lands include a 37,100-acre ridge line area of the

ranch historically and currently used by California condors that's been designated as a Condor Study Area. Also included are a 5,553-acre mountain resort and other development in southern Kern County.

"The plan we celebrate today is the result of many people thinking big ideas about wildlife conservation," said Service Director Dan Ashe at a ceremony in May to announce the plan. "It is a landmark plan with a landscape view of conservation, and helps ensure California condors, birds and other rare wildlife will remain a vital part of this landscape for years to come," Ashe said.

"The multiple-year process was both a challenge and a journey for all parties involved, but it was a journey worth taking," said Tejon Ranch Company President and CEO Robert A. Stine, "The end result is an incredible success story for the HCP process with the signing of this permit covering nearly 142,000 acres of incredible California landscape and protecting not only the California condor but 24 additional species as well."

In 2007, Tejon Ranch Company was the first private landowner in California to voluntarily ban the use of lead ammunition, a problem for California condors, on its lands. State legislation the next year banned the use of lead ammunition within the range of the California condor. In 2008, the company signed the Tejon Ranch Conservation and Land Use Agreement with Audubon California, the Endangered



Service Director Dan Ashe (right) meets Dolly the California condor at Tejon Ranch in Tejon, Calif. Also present: Joseph Brandt (wearing sunglasses), a California condor biologist at Hopper Mountain NWRC and Dolly's handler, Mike Clark from the San Diego Zoo. □

Habitats League, Natural Resources Defense Council, the Planning and Conservation League, and the Sierra Club to preserve up to 240,000 acres of ranch lands and create the non-profit Tejon Ranch Conservancy to manage the lands.

"As one of its key participants, DMB Pacific Ventures believes that the plan complements the objectives incorporated into the Tejon Ranch Conservation and Land Use Agreement—a collaborative agreement between the ranch and the nation's leading environmental advocates which conserved 90 percent of the 270,000-acre property," said Eneas Kane, managing director and CEO of DMB Pacific Ventures. "We're also proud of the working relationship that DMB Pacific Ventures has established with the Service on behalf of Tejon Ranch."

In addition to the California condor, the plan provides protections for two other birds protected by the ESA: least Bell's vireo and southwestern willow flycatcher. Another bird, the western yellow-billed cuckoo, is a candidate for ESA protection. □

SCOTT FLAHERTY, External Affairs, Pacific Southwest

THE ENDANGERED SPECIES ACT

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The black-footed
ferret is
making a
comeback.



Fighting for the Future

40 Years at the Forefront of Wildlife Conservation

When President Richard Nixon signed the ESA into law on December 28, 1973, he enthusiastically proclaimed that “nothing is more priceless and more worthy of preservation than the wildlife with which the country has been blessed.” Had he not put pen to paper that day, the nation would not be the diverse treasure trove of life that we know today. The bald eagle would not soar freely over every state except Hawaii. The gray wolf would still be absent from Yellowstone. The California condor, a species that disappeared from the wild in 1987, would have gone extinct. And an untold number of species now under federal protection may also have vanished.

When the ESA was signed into law, only 78 species were protected as threatened or endangered, none of which were invertebrates or plants. Iconic species such as the bald eagle, gray wolf and California condor were exceptionally rare, all at precariously low numbers throughout their ranges. These creatures symbolize why an overwhelming majority in Congress voted for the ESA.

Today, the ESA protects more than 1,480 U.S. species and 620 foreign species. It is sometimes seen as one of the noblest of laws, calling for the protection of those species that cannot protect themselves in a world that has been dramatically changed from the time it was settled. Habitat loss and degradation have pushed the nation's native flora and fauna out of the habitats for which they are uniquely adapted. The ESA is designed to protect, among other things, the habitat and ecosystems that formed over a millennia, and it has successfully reversed the decline of species that, in some instances, have been more than 200 years in the making.

For 40 years, the Endangered Species Act (ESA) has been credited as the world's most powerful wildlife conservation law. From the carnivorous green pitcher plant of southeastern wetlands, to the northern spotted owl of northwestern forests, to the iconic polar bear of the Arctic, the ESA protects imperiled plants and animals — both at home and abroad.

As we celebrate the ruby anniversary of this momentous piece of legislation, we recognize the remarkable successes it delivers — providing for the protection of ecosystems, the conservation of endangered and threatened species, and the enforcement of all treaties related to wildlife preservation.

When the nation's other conservation laws and management practices fail to maintain healthy plant and animal populations, the ESA serves as a last barrier to extinction. The ESA has prevented the extinction of 99 percent of the species it protects — a tremendous accomplishment.

Recovering endangered species is complex and challenging work, often requiring substantial time and resources to help species increase their population, decrease their threats and adapt to additional factors like invasive species and climate change. Even though it is far from a complete measure of the ESA's success, that 26 species have successfully recovered and no longer require federal protection in a mere four decades is remarkable progress.

A more complete measure of success is the number of species that are no longer declining, have stable populations or are improving in status.

Today, hundreds of species are stable or improving thanks to management actions of federal agencies, state and local governments, conservation organizations and private citizens. The list includes the western snowy plover of northwestern beaches, the Okaloosa darter of fast-flowing streams in Florida and the black-footed ferret of tallgrass prairies near the heart of the nation. Many partners share a commitment to build on previous accomplishments and expand innovative initiatives to further the mission of the ESA.

While the future is certainly brighter for many endangered fish, wildlife and plants,

biologists still face a number of ongoing conservation challenges. A single, catastrophic event can quickly undo years of progress and provide a setback to recovery. New challenges lie ahead in the conservation of threatened and endangered species as a result of climate change, which also exacerbates the impacts of other stressors, such as invasive species, habitat loss and environmental contaminants.

Many species continue to hang on by just the thread ESA protection provides them, and in some cases, animals will never recover their former abundance.

The road to recovery will be a long one, full of twists and turns, for species like the Kemp's ridley sea turtle — the rarest and most endangered of the seven sea turtle species found in North America. These turtles lay many eggs, but only 1 percent of the hatchlings survive to adulthood. Those adults face threats on both nesting beaches and in their marine environment — most notably incidental capture in fishing gear.

Over the last four decades, plants and animals across the nation have faced a barrage of conservation challenges. And while some species with precariously low numbers may never recover to the point where ESA protection is no longer necessary for their survival, the status of many species has improved or stabilized. In the 40th year of its existence, the ESA is stronger than ever. It continues to represent an unwavering commitment to protect the nation's species for future generations — a commitment that says a great deal about who we are as a nation. □

VALERIE FELLOWS and SARAH LEON,
Ecological Services, Headquarters

ENDANGERED SPECIES ACT

THROUGH THE DECADES

WILDEST



1974

MARCH 1967

The first 78 species are listed as endangered under the Endangered Species Preservation Act of 1966, a precursor to the Endangered Species Act. The list includes the grizzly bear, bald eagle, American alligator and brown pelican.

AUGUST 1973

Dr. David Etnier discovers a new perch species, the snail darter—in the Little Tennessee River, upstream from the construction of the Tellico Dam. The species is later listed as endangered, which halts dam construction for a short while, and eventually becomes one of the most notorious Endangered Species Act issues of all time.

DECEMBER 1973

President Richard Nixon signs into law the Endangered Species Act, with overwhelming support from Congress.

AUGUST 1974

More than 400 animals around the world gain Endangered Species Act protection as endangered or threatened, including the American bald eagle, the jaguar, gorilla and the blue whale.

APRIL 1976

Tennessee's snail darter is the first animal to have its habitat requirements defined as "critical" to its survival.

SEPTEMBER 1977

The first plant species are listed as endangered—San Clemente Island Indian paintbrush, San Clemente Island larkspur, San Clemente Island broom and San Clemente Island bush-mallow.



1981

SEPTEMBER 1981

The black-footed ferret is rediscovered near Meeteetse, Wyoming, giving hope to a species that was considered extinct. In 1991, captive-bred ferrets are reintroduced into Wyoming several years after the last wild population was captured to prevent extinction from disease outbreaks. By 1998, the number of ferrets in the wild exceeds the number held in captivity.

MARCH 1983

The first Habitat Conservation Plan is created for the mission blue butterfly San Bruno elfin butterfly and the San Francisco garter snake—providing for development while ensuring the long-term future of these endangered species in California.

FEBRUARY 1985

The brown pelican on the U.S. Atlantic coast and in Florida and Alabama is removed from the list of threatened and endangered species—the first species to recover from the devastating effects of DDT.

APRIL 1987

The last of the remaining wild California condors is taken into captivity at Hopper Mountain National Wildlife Refuge—a last-ditch effort to save the species through captive breeding programs. The first captive-bred condors are reintroduced into the wild in southern California in 1991, and in 2004 condors reproduce in the wild for the first time in 17 years.

JUNE 1987

The American alligator, a species nearly hunted to extinction, is removed from Endangered Species Act protection following recovery.

ALL PHOTOS: USFWS, EXCEPT MAGAZINE
MOUNTAIN SHAGREEN SNAIL, CREDIT:
TREY REID, ARKANSAS GAME & FISH
COMMISSION.



JUNE 1990

The northern spotted owl is listed as threatened, one of the factors leading to development of the Northwest Forest Plan a few years later.

MARCH 1995

Six gray wolves are released into Yellowstone National Park, restoring a top predator after an absence of 60 years.

APRIL 1995

North Carolina's Pinehurst Resort becomes the nation's first participant in a Safe Harbor Agreement to benefit the endangered red-cockaded woodpecker on private lands.

AUGUST 1999

The American peregrine falcon is removed from Endangered Species Act protection following its full recovery.



FEBRUARY 2000

The Service confirms the first known reproduction of the endangered pallid sturgeon in the Lower Missouri River in 50 years — boosting hopes of recovery for the dinosaur-age fish.

MARCH 2001

The Aleutian Canada goose is removed from Endangered Species Act protection due to its full recovery, following the removal of introduced foxes on Alaskan islands, the release of captive-reared geese, and protection of migration and wintering habitat.

MAY 2006

The first annual Endangered Species Day celebration recognizes conservation efforts across the U.S. for imperiled species

JUNE 2007

A Kirtland's warbler (below) nest is found in Wisconsin, marking a historic milestone for a species that had not bred outside of Michigan and Ontario since the 1940s.

AUGUST 2007

After 40 years of federal protection and the banning of the pesticide DDT, the bald eagle fully recovers and is removed from Endangered Species Act protection.

MAY 2008

The polar bear becomes the first mammal species to gain Endangered Species Act protection as a result of climate change.

AUGUST 2008

A wild-born black-footed ferret kit is confirmed in Kansas after reintroduction of the species the previous winter. Successful reproduction has been documented every year since.



AUGUST 2010

The 10,000th captive-bred Chiricauha leopard frog is released into the wild.

SEPTEMBER 2010

Across the country, 6,500 mussels are released into Virginia's Clinch River — 3,500 of these are federally endangered species. This event represents the single largest release of mussels in the eastern United States.

MARCH 2011

Whooping cranes fly over Louisiana marshes for the first time in 60 years

AUGUST 2011

The Lake Erie watersnake, found on offshore islands in western Lake Erie in Ohio and Ontario, becomes the 23rd species removed from Endangered Species Act protection due to its full recovery. Across the country, just two months later, the concho water snake of central Texas joins the list of recovered species.

SEPTEMBER 2011

Thanks to the efforts of many partners that worked together for more than 30 years to expand and protect Tennessee purple coneflower colonies, the Service removes this member of the sunflower family from Endangered Species Act protection.

JUNE 2013

The Magazine Mountain shagreen snail wins the race to become the first invertebrate to be recovered and removed from Endangered Species Act protection.

A bald eagle is shown in mid-flight, its wings spread wide, flying over a nest made of sticks and grass. The eagle's head is white, and its body is dark brown. The background is a soft, out-of-focus landscape with green grass and a blue sky.

HISTORY^{OF THE} *endangered* SPECIES ACT

by VALERIE FELLOWS

“Nothing is more priceless and more worthy of preservation than the rich array of animal life with which our country has been blessed.”

— PRESIDENT RICHARD NIXON upon signing the Endangered Species Act into law

Federal protection of endangered species dates back to the Lacey Act of 1900, when, in response to growing public concern about the pending extinction of the passenger pigeon, Congress passed the first wildlife law. Designed as a tool to help states protect resident species, the Lacey Act prohibited the interstate transportation of wildlife taken in violation of state law.

As public awareness of environmental problems initiated political activism in the 1960s, the Department of the Interior formed a Committee on Rare and Endangered Wildlife Species to identify species in immediate danger of extinction. The Redbook on Rare and Endangered Fish and Wildlife of the United States, published in 1964, served as the first official document naming species the federal government considered to be in danger of extinction.

Two years after the Redbook list was published, Congress passed the Endangered Species Preservation Act of 1966, the first piece of comprehensive endangered species legislation. The goal as stated in the 1966 act was to “conserve, protect, restore and propagate certain species of native fish and wildlife,” although it did little but authorize efforts to acquire important habitat. Although this law showed congressional support of endangered species and prohibited the taking of endangered species on wildlife reserves, it did not restrict killing endangered species on public or private land and it only allowed U.S. native species to be listed.

It was under the 1966 Endangered Species Preservation Act that the very first list of threatened and endangered species was created. This list included the grizzly bear, bald eagle, American alligator, shortnose sturgeon and 74 other animals.



American alligators and bald eagles were on the first list of imperiled wildlife, made in 1967, and now both are recovered.

The 1966 act lacked protection measures for habitat and foreign species, which prompted the Endangered Species Conservation Act of 1969, which increased prohibitions on illegal animal trade, included the protection of invertebrate species and directed the Secretary of the Interior to create a list of species in danger of worldwide extinction. With the growing importance of species conservation on an international level, the United States supported the development and 1973 passage of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the only global treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.

Still not satisfied with the protections the 1969 act provided domestic species and prompted by agencies like the Service, Congress passed the Endangered Species Act of 1973 (ESA). The ESA combined and strengthened its predecessors to become the primary means for federal agencies to protect threatened and endangered species and their habitats.

When President Richard Nixon signed the law on 28 December 1973, he called wildlife “a many-faceted treasure, of value to scientists, scholars and nature lovers alike, and it forms a vital part of the heritage we all share as Americans.” With the ESA’s passage, Congress recognized that the nation’s rich natural heritage is of “esthetic, ecological,

educational, recreational, and scientific value to our nation and its people.” It further expressed concern that many of the nation’s native plants and animals were in danger of becoming extinct.

The authors of the ESA made an unmistakably strong statement on national species protection policy. The ESA provided for the protection of ecosystems, the conservation of endangered and threatened species, and the enforcement of all treaties related to wildlife preservation.

The Endangered Species Act of 1973 is by far the most significant piece of endangered species legislation and is considered one of the world’s most important conservation laws. □

VALERIE FELLOWS, Ecological Services, Headquarters



A Kemp's Ridley sea turtle basks in the beach sun.

A DAY IN THE LIFE

The Service has staff on the ground all over the country dedicated to preventing extinction, stabilizing populations and recovering imperiled species. This is a snapshot of one biologist from each the Service's eight regions, the work they do and how they continue to conserve the nation's natural heritage.

Susan Cameron

SOUTHEAST REGION



Sue Cameron moves carefully though the cave, keeping a close eye out for bats—both healthy and those that have succumbed to white-nose syndrome. As a biologist focused

on terrestrial species, she not only ventures underground but wades wetlands to monitor bog turtles and climbs the tops of the highest peaks in the eastern United States to tag Carolina northern flying squirrels or collect data on the habitat of the spruce-fir moss spider, the world's smallest tarantula.

Susan VonOettingen

NORTHEAST REGION



If you can't find endangered species biologist Susi vonOettingen along the New England coast working

with roseate terns, piping plovers and northeastern beach tiger beetles, she's probably counting bats in summer roosts and winter hibernacula. Susi splits her time working with partners to support these and other threatened and endangered species, including small-whorled pogonia, dwarf wedgemussels and Puritan tiger beetles. She assists and consults with federal and state agencies, environmental organizations and private landowners to protect and recover New England's listed species.

David Safine

ALASKA REGION



David Safine, a biologist from the Fairbanks Fish and Wildlife Field Office, teaches three students (Fred Neakok of Point Lay, and Rex Brinkerhoff and Sean Sikvayugak of

Barrow) from a Service summer camp how to determine the final fate of waterfowl nests (hatched vs. failed). The Steller's and spectacled eider recovery programs use outreach along with research, consultation and management to conserve threatened eiders on the North Slope of Alaska.

Joseph Brandt

PACIFIC SOUTHWEST REGION



Joseph Brandt leads a team of field biologists and volunteers who monitor and safeguard the population of California condors in Southern California. Based out of the Hopper Mountain National

Wildlife Refuge Complex, Brandt's day-to-day work varies throughout the year depending on the season. He can be found rappelling down steep cliffs into condor nest cavities to examine condor eggs or chicks, or helping handle condors to test their blood for lead exposure and change out the tags and transmitters that each bird wears.

Angela Boyer

MIDWEST REGION



If you want to know anything about endangered mussels in the Midwest, everyone will tell you talk to Angela Boyer. (She's looking at mussels in the photo.) Angela is a dedicated biologist

involved in the conservation of numerous threatened and endangered species in Ohio, including the recovered Lake Erie watersnake, Indiana bat and purple cat's paw pearly mussel. More recently, Angela was part of the team that brought the last remaining purple cat's paw pearly mussels from the wild into captivity in hopes to prevent the species from going extinct.

Sheldon Plentovich

PACIFIC REGION



Sheldon's job as the Pacific Islands Coastal Program coordinator involves working with a variety of partners from around the Pacific to find innovative ways to protect and restore native ecosystems.

She has worked on a diverse array of projects such as engaging local communities in Palau to protect watersheds, researching and implementing ways to eradicate ants on remote atolls, and translocating the endemic and highly endangered Nihoa millerbird to sites where they have been extirpated.

Melissa Mata

SOUTHWEST REGION



After hours of driving on undeveloped roads on the Navajo Nation, Melissa reaches her sampling destination, a stream little more than a series of

isolated murky pools. She and a colleague drag their seine net in one pool about the size of a Chevy Suburban, hoping to capture any remaining Zuni bluehead suckers, a fish proposed for Endangered Species Act protection. To Melissa's surprise, they capture a large number, and they are thriving. She reflects on how amazing it is that these fish persist under severe drought conditions, essentially waiting for the monsoonal rains to replenish their little pool so that they can survive another year.

Jason Palmer

MOUNTAIN-PAIRIE REGION



Jason is a critical part of the Wyoming Toad Captive Breeding Team, working to increase the population of one of the most endangered amphibians in North America. In fact, if it weren't for the

captive-breeding program, this species would be extinct. On a typical day, Jason might work with zookeepers, biologists and veterinarians to help refine husbandry and hibernation techniques; conduct field surveys for amphibians and Wyoming toads; or deliver an education program about Wyoming toads to the local community.



WHAT'S YOUR STORY?

Everyone has a story. What's yours? *Fish & Wildlife News* would like to keep highlighting the work of our employees. Tell us in a short paragraph what is the most unusual thing you have done for the Service? We'll print the best. Email matthew_trott@fws.gov.

IN OTHER WORDS

by LEDA HUTA

A WILD 40 success AT

Any of us would be proud to have the legacy the Endangered Species Act has. It is no small feat, bringing species back from the brink of extinction and restoring a nation's natural heritage. I am thankful to be living in a country that has led the way.



Thanks to the act, bald eagles soar over our heads, grizzly bears roam our wild lands, and blue whales swim off our coasts. In passing the bipartisan Endangered Species Act in 1973, our nation made a commitment to our children and grandchildren to be good stewards of our skies, land and waters.

Looking back on 40 years, the nation has kept this promise. After two centuries of pushing species to extinction, we have now turned the tide in just a few decades. According to the National Research Council, the Endangered Species Act has saved hundreds of species from extinction. As a result, we have incredible stories to tell.

The country has brought back the only wild migratory flock of whooping cranes from 15 individual birds to 250 today. Due to our international initiatives nearly 200 Kemp's Ridley sea turtle nest on U.S. beaches up from zero in the 1950s. And after rediscovering and capturing a

small population of black-footed ferrets, multi-partner conservation efforts have increased wild ferrets from zero in 1991 to more than 1,000.

And the ESA has done more than just preventing extinction. It has helped recover species to self-sustaining levels. The American alligator, the Maguire daisy and the Peregrine falcon all have healthy populations, so much so that they are officially recovered.

Of course, as a conservation advocate, I always want to see us do more. But, taking a step back and putting into perspective all that the United States has accomplished, I know it is a remarkable record. I am not sure that I could name many other countries that have an endangered species program as strong as ours. In fact, I'm not sure I could name any.

The U.S. Fish and Wildlife Service has poured countless hours into garnering these successes. Despite all the challenges faced, the agency has sought out successful partnerships to recover species,

restore habitat and educate the public. The Endangered Species Coalition has been fortunate to partner with the agency on one such effort—Endangered Species Day. Every third Friday of May, the coalition helps to organize events around the country to educate the American public about endangered species and how far the country has come in protecting them. ES Day has reached millions of individuals over the years.

Not surprisingly, the response from the public is incredibly positive at these events. Americans continue to believe in protecting endangered species in overwhelming majorities. A recent poll showed that 87 percent of Americans agree that the Endangered Species Act is a successful safety net for protecting fish, wildlife, and plants from the risk of extinction. And 92 percent believe that scientists should be the ones to make decisions about protecting wildlife.

Forty years is a great time to step back from the daily decisions, negotiations, problems, wins and losses to survey the landscape of our nation's endangered species program. It is plain to see that the ESA has greatly tipped the balance on the biodiversity scale to our favor. Species are no longer going extinct on our watch. That is an incredible legacy that we all share. □

LEDA HUTA, Executive Director, Endangered Species Coalition

Whooping cranes at Patokah River
National Wildlife Refuge in Indiana on
their migration south.

“Americans continue to believe
in protecting endangered species
in overwhelming majorities.”





Meredith Graf

SAVING WITH ART *species*

Artist Meredith Graf puts talent to work for conservation

by CRAIG RIEBEN

Each year thousands of young students descend on the nation's capital to visit the monuments and museums and learn how their government works. In 2009, among those thousands was a eighth-grader from New Orleans, Louisiana, who came to town intent on helping endangered wildlife through the use of her artistic talent. Since that visit, her singular efforts have proved a giant boost to educational efforts for endangered species. And she graciously provided the cover and other original art for this edition of *Fish & Wildlife News*.

This fall, 18-year-old Meredith Graff headed off to college as an accomplished artist and has more than realized her desire to help wildlife. Since that brief visit to Washington, she has been helping to promote and expand the national youth art contest associated with the annual celebration of Endangered Species Day. The contest is a cooperative effort involving the Service, the Endangered Species Coalition, the International Child Art Foundation and the Association of Zoos and Aquariums.

The story actually begins locally at the Service's Ecological Services field office in Louisiana where Meredith first inquired about how she might help the cause of wildlife conservation. Debra Fuller responded to her questions and thoughtfully provided some suggested contacts for her upcoming trip to Washington, DC.

Upon arrival in Washington, she started at the top with a call to then-head of the Endangered Species Program Bryan Arroyo, who referred her to staff members Gloria Bell and Claire Cassel. The result was an impromptu meeting on a park bench one afternoon in front of the Smithsonian's National Air and Space Museum. Meredith wanted to get involved with the art contest and help promote it using her artistic talent. The possibility of a poster was considered, but Meredith says she felt like doing more and ended up designing and crafting a sculptured bald eagle trophy that is now annually engraved with the name of that year's art contest winner. This is particularly impressive because she had never done any sculpting, but she enlisted the help of a famous local sculptor, James Vella, to instruct and assist with the ambitious project.

Meredith, who won the 2004 Louisiana Junior Duck Stamp Contest, says she has always felt strongly about helping wildlife. Indeed, her great-grandfather, Thomas "Mac" McAmis, was a major voice for wildlife management and conservation in the Southeast for nearly 20 years as head of the Arkansas Game and Fish Commission. He went to work for the commission in 1941 and served as its director from 1945 until his death in 1956. Along the way he also served as chairman of the National Waterfowl Council and the Mississippi Flyway Council.

Meredith's artistic and community efforts have not been restricted solely to wildlife. Diagnosed as a second-grader with ADHD, she has also been highlighted as a role model by the Attention Deficit Disorder Association and has been a guest at the White House. Her efforts have also been recognized through a resolution passed by Louisiana State Legislature. □

This painting by Meredith Graf includes products of both domestic and foreign threatened and endangered species: an elephant tusk, alligator skull, American bald eagle feather, cheetah skin and rhino bone.

CRAIG RIEBEN, External Affairs, Headquarters

pacific

Conservation Passion Keeps Frogs Hopping in Owyhee County, Idaho

Mark Twain would be proud of Chris Black of Owyhee County, Idaho

When Twain wrote *The Celebrated Jumping Frog of Calaveras County* in 1865, it's likely that frogs were plentiful in the high desert. In recent history, however, the Great Basin population of the Columbia spotted frog has declined, and it now is a candidate species for Endangered Species Act protection.

Spotted frogs live in springs, meadows, marshes, ponds and streams with abundant vegetation. They migrate along riparian corridors for spring breeding, summer foraging and winter hibernation. Healthy habitat can be seriously impacted by human action, climate conditions, wetland degradation and loss of native beavers. Spotted frogs face troubled times if valuable wetland habitat is altered or lost.

Most of the habitat that is critical to frog survival is privately owned. Although most ranchers in the area work with livestock, Owyhee County cattle rancher Chris Black has decided to try his hand at managing frogs. Frogs?

Yes. Black's work has focused on ranch lands and frogs! "I had observed frogs on my property for a long time," says Black. "I thought possibly if I worked with the Fish and Wildlife Service, together we could find ways to give the frogs a fighting chance, and also possibly improve my

land for cattle operations. I thought we could do both."

"Implementing habitat restoration/enhancement for Columbia spotted frogs also helps landowners in managing their livestock and their precious riparian areas," says Kathleen G. Hendricks of the Service's Conservation Partnerships. "Overall, the system is improved: Grasses and forbs thrive, soils stay wetter longer into summer; this is good for frogs, and livestock and other grazers (wildlife) that use the site," she says.

Per a voluntary agreement with the Service, Black built 13 ponds on his property and improved older ponds to enhance frog breeding areas and improve connectivity. He granted property access for Service biologists to survey and monitor frogs, and he provided substantial personal funding to implement habitat restoration projects.

The largest known threat to spotted frogs is habitat alteration and loss, specifically loss of wetlands used for feeding, breeding, hibernating and migrating.



"Chris Black is a valued and respected conservation partner. He's a successful and hard-working steward of Western lands in many ways—from cattle ranching to frogs. He's an astute observer of wildlife, always keeping track of how the frogs are doing: monitoring egg masses, observing tadpoles and watching adult behavior," says Chris Reighn, the lead recovery biologist for the Columbia spotted frog. "We have learned a lot from Chris, and we look forward to a long partnership in the future."

Black's passion for conservation is contagious. As a result of his willingness to collaborate with the Service, three other Owyhee County landowners are working with the Service on surveying efforts, resulting in 32 spotted frog projects on private land. □

MEGGAN LAXALT MACKEY,
External Affairs, Pacific Region

southwest

San Juan River Recovery Implementation Program Helps Colorado Pikeminnow and Razorback Sucker

The San Juan River in northwest New Mexico, one of three major sub-basins of the Upper Colorado River Basin, has historically provided habitat for the endangered Colorado pikeminnow and razorback sucker, but by the 1980s, only small remnant populations of these species survived in the San Juan. The Colorado pikeminnow (formerly Colorado River squawfish), listed as endangered in 1967, was on the very first list of threatened and endangered species created under the 1966 Endangered Species Preservation Act. The razorback sucker was listed as endangered in 1991.

In 1992, the San Juan River Recovery Implementation Program was formed with two goals—recover the two endangered fish in the San Juan River and allow water development to proceed in compliance with all applicable laws, compacts and treaties. Partners in the program include New Mexico, Colorado, federal agencies, Native American tribes, water development interests and conservationists. It is managed by the Service's New Mexico Ecological Services Field Office in Albuquerque.

Since its formation, the program has worked to recover the Colorado pikeminnow and the razorback sucker through propagation and stocking to re-establish self-sustaining populations. It has also worked to remove harmful nonnative



species, conduct research and monitoring to assess progress, and manage habitat by providing adequate flows, range and water quality.

Historically, the Colorado pikeminnow, the largest American minnow (up to 6 feet long and 80 pounds), was an important food for residents in the Colorado River Basin. It was identified as the largest and best food fish in the river in 1891 and was widely sought after.

By the late 1980s fish surveys reported only a few wild Colorado pikeminnow in the San Juan.

In order to kick start recovery, the program began stocking Colorado pikeminnow in the San Juan River in 1996. Over time, there has been a gradual upward trend in total adult pikeminnow captured, although most are presumably from the stocking program. Young, wild-spawned pikeminnow remain rare, but a few larval fish

The 2013 survey crews are capturing wild-produced juvenile razorback sucker.

have been caught, showing that some natural reproduction is occurring.

The razorback sucker, also valued as food by Native Americans and early settlers, is a long-lived fish that can reach lengths of 39 inches and weigh up to 12 pounds. Razorback sucker were reported in the San Juan River in the 1890s, but by the early 1990s, wild populations had essentially disappeared.

Stocking of this species began in 1994 and has occurred every year except one. Encouragingly, spawning has been documented in the river for 15 consecutive years. There has been a steady increase in the number of razorback suckers captured over time with a good mix of age classes.

The challenge now is to get river-spawned fish to survive to adulthood. Through 2012, the program has had limited success capturing wild juveniles of either species—the sign of a self-sustaining population. Recently, though, there has been good news—numerous reports that the 2013 survey crews are capturing wild-produced juvenile razorback sucker.

A longtime program participant, Tom Pitts, who represents water development interests, summed it all up very well in a recent magazine article, “The recovery program is moving towards recovery of endangered species—the ultimate and rarely achieved goal of the ESA—in concert with continued water development and management. One of the recovery program’s greatest accomplishments has been to bring people together in a collaborative effort that serves many diverse interests. Enormous conflicts with uncertain outcomes have been avoided. Potential adversaries have become allies and partners.”

The road to recovery of any species is never an easy one. With the San Juan River Recovery Implementation Program, the Colorado pikeminnow and razorback sucker are showing movement toward recovery through a tremendous collaborative effort. □

SHARON B. WHITMORE, San Juan River Recovery Implementation Program, Southwest Region



Returning the Higgins eye Pearlymussel, Nature’s Silent Sentinel

Freshwater mussels are often referred to as “silent sentinels” in streams and rivers. Their abundance indicates water quality is good, while their decline or absence sends an alarm that something in the ecosystem is seriously wrong. Threatened by poor water quality and the construction of locks and dams, Higgins eye pearlymussels were listed as endangered throughout their range in the Upper Mississippi River and its tributaries in Illinois, Iowa and Minnesota in 1976.

Early recovery efforts by the Service and partners focused on reducing these threats.

Higgins eye recovery shifted during the 1990s when the invasive zebra mussel wreaked havoc on native mussel beds in the Higgins eye range. As the zebra mussel threat grew and the water quality in the Upper Mississippi River improved, the recovery efforts shifted focus to mussel propagation and reintroduction. The goal: restoring Higgins eye pearlymussels into their historic habitat.

Propagating Higgins eye, as with any freshwater mussel, is not as straightforward as it might seem. Mussels have complex life cycles, and depend on one or more species of host fish for their tiny larvae, called glochidia, to attach to while they develop. Growing mussels in a hatchery involves raising host fish (small-mouth bass, largemouth bass >>



southeast

Magazine Mountain Shagreen Snail is First Recovered Invertebrate

In the highest parts of Arkansas' Ozarks, the slow-moving Magazine Mountain shagreen snail has won the race to become the first invertebrate to recover and be removed from Endangered Species Act protection.

Under the Endangered Species Preservation Act of 1966, only vertebrate species could get federal protection. The Endangered Species Act of 1973 allowed for the protection of wildlife, both vertebrates and invertebrates—including snails, mussels, crustaceans, arachnids and insects—and eventually plants. In the Southeast alone, the Service is working to recover more than 340 federally protected species—more than 100 of which are invertebrates.

And one is a tiny, dusky brown snail, the Magazine Mountain

Higgins, continued from page 19

and walleye for Higgins eye), using scuba divers to collect adult gravid (pregnant) Higgins eye from the wild, collecting glochidia from the mussels, inoculating host fish (placing glochidia on host fish), and maintaining host fish until the glochidia grow into tiny juvenile mussels.

The propagation of Higgins eye takes place at Genoa National Fish Hatchery in Wisconsin.

The potential numbers of mussels produced is startling. In 2011, seven donor female mussels collected from the Mississippi River produced an estimated 168,270 juvenile Higgins eye; 20 mussels collected from the St. Croix River produced an estimated 841,117 juveniles.

To get Higgins eye pearlymussels back into rivers, several methods can be used.

- Glochidia-inoculated fish and cages are transported by boat to

a relocation site where divers secure the cages on the river bottom. Depending on their size, 30 to 50 host fish are placed in each cage. After three to four weeks, the glochidia mature and fall off the fish gills onto the river or the bottom of cages. Divers then return after another three to four weeks to release host fish to the river. They return four months later to check results. It is sometimes difficult to find young mussels, as glochidia may be swept downstream. Any subadults mussels found are used to restock other areas.

- Sometimes, juvenile mussels grown at Genoa NFH are used for stocking. With this method, divers place the juvenile mussels into wooden-framed, screen-covered trays that are anchored to the bottom of the river.

- Another relocation technique is stocking host fish that have been inoculated with glochidia.

Finding suitable places with the right conditions for Higgins eye to survive and thrive is a challenge.

Higgins eye pearlymussels are ready for relocation into the Upper Mississippi River.

Sites with good water quality must have appropriate flow, river bottom substrate and water depth. They must be in areas not heavily colonized by zebra mussels or likely to fill with sediment. And for practical reasons, they must also be accessible to divers.

Growing young Higgins eye pearlymussels and reintroducing them back into waterways within their former range is a key and ongoing recovery task. Since 2002, the Service has released about 42,000 sub-adult Higgins eye at nine reintroduction sites within the Mississippi River watershed in Iowa, Wisconsin and Minnesota. Long-term monitoring will help guide efforts at restoring this silent sentinel in the Upper Mississippi River basin. □

PHIL DELPHEY, Ecological Services, Midwest Region

TREY REID, ARKANSAS GAME & FISH COMMISSION



shagreen only found on Magazine Mountain in Logan County, Arkansas. It prefers cool, moist conditions and inhabits the mountain's north and west slopes above 2,200 feet.

The Magazine Mountain shagreen was first listed as a threatened species in 1989. It was listed primarily because of habitat loss and possible negative effects from a military proposal to conduct troop and heavy equipment movements and artillery operations on the mountain. Also, there were concerns that a new state park on Magazine Mountain that would include construction of buildings, roads and trails could significantly destroy or degrade the snail's habitat.

The entire range of Magazine Mountain is in the Ozark Mountains and is owned by the U.S. Forest Service; they designated portions of the mountain as a Special Interest Area to protect

The Magazine Mountain shagreen was first listed as a threatened species in 1989.

the snail and its habitat. The Arkansas Department of Parks and Tourism has a long-term special use permit from the Forest Service to operate a state park on the summit. The Forest Service also conducts annual surveys of the Magazine Mountain shagreen's population and worked cooperatively with the Arkansas Game and Fish Commission and the Service to finance life history and ecology research. These studies increased the Fish and Wildlife Service's knowledge of the species' life history and enabled the FWS to more accurately map its habitat with new technologies.

Today, the Magazine Mountain shagreen lives on 27 locations on Magazine Mountain, cumulatively comprising about 22 acres. These populations are considered secure from threats.

Monitoring results indicate that Magazine Mountain shagreen populations have remained stable since 1996. Additionally, a review of its status shows adequate regulatory protection exists, and threats have been eliminated or reduced to the point that the species has recovered and no longer meets the definition of threatened under the Endangered Species Act.

The outstanding cooperative recovery efforts, coupled with adequate regulatory protection, has eliminated or reduced threats to the snail, helping the species secure its place in history. The Service announced in 2013 that the snail has fully recovered and no longer needs federal protection. □

CHRIS DAVIDSON, Ecological Services, Southeast Region



R.G. TUCKER JR. / USFWS

northeast

Partnering to Conserve Bog Turtle Habitat in Pennsylvania

Until a few years ago, many considered the bog turtle, protected as threatened in 1997, unrecoverable. Fortunately, a partnership forged in 2010 between the Natural Resource Conservation Service (NRCS) and the Service, is helping the species gain a solid foothold on the path to recovery.

Measuring just four inches long, the bog turtle is North America's smallest turtle. The northern population of bog turtles ranges from New York and western Massachusetts south to Maryland. Though the geographic distribution of the bog turtle is fairly extensive, they are limited to a specific and rare type of wetlands — spring-fed meadows and bogs where tussock sedge and grasses dominate. NRCS' Wetland Reserve Program (WRP) in Pennsylvania, with support from the Service, has helped improve the long-term prospects for the bog turtle. Now, other states are taking notice.

The most distinguishing feature of the bog turtle is the large orange (yellow or red) blotches on each side of the head.

The voluntary program offers private landowners the opportunity to protect, restore and enhance wetlands on their property. The goal is to achieve the greatest wetland functions and values, along with optimum bog turtle habitat, on every acre enrolled in the program. To date, this initiative has resulted in the permanent protection of 48 bog turtle sites, covering 1,288 acres.

In recent decades, livestock grazing has decreased or ended in many areas, and trees and shrubs dominate bog turtle wetlands. Although bog turtle habitat has generally retained its wetland character, tree and shrub growth causing shading has significantly or totally reduced nesting success.

Bog turtles nest on high spots above the wetlands. If the nests are shaded, they do not get the needed warmth from the sunlight and the eggs will not hatch. >>



Turtle, continued from page 21.

Bog turtles can live for more than 50 years, and many of the remaining populations in Pennsylvania comprise only older adults. Some remnant populations have not seen successful reproduction for decades.

WRP easements have resulted in the restoration of bog turtle habitat and maintenance of herbaceous conditions. Initial restoration involves cutting, using herbicides, and/or carefully managed grazing—a valuable tool that can help maintain bog turtle habitat areas as open wetlands.

In addition to specifically conserving the occupied wetlands, another significant achievement of the easement initiative is the expanded conservation of upland buffers for these wetlands, allowing up to five acres of upland buffer for every one acre of wetlands enrolled.

The landscapes where some bog turtle populations occur in Pennsylvania are still agricultural, but they have also become interspersed with significant areas of small-tract residential developments. That means many wetlands important for bog turtle recovery cross several properties. To accomplish recovery, larger buffers to disturbance around the wetlands are needed

within a single parcel. In addition to helping ensure the long-term functioning of the wetland habitat, creating and maintaining larger buffers will help protect bog turtle populations.

The key to the success of this program has been compensation to landowners who enroll their property in the WRP. The Pennsylvania NRCS formula provided much more incentive for landowners to set aside lands for their conservation value, and this approach is now being adopted by other states in the turtle's northern range.

The initiative has also bolstered a partnership with Mid-Atlantic Center for Herpetology and Conservation, which has been identifying sites with potential habitat, conducting bog turtle surveys on properties that have potential habitat and pursuing landowner enrollments without any cost to the Service or NRCS with a grant from the National Fish and Wildlife Foundation.

With the NRCS and Service bog turtle initiative, conservation efforts for this threatened species are no longer limited to project reviews and regulatory enforcement. Based on the promising results of the initiative, biologists are confident that the bog turtle can be recovered. □

BONNIE DERSHEM, Pennsylvania Field Office, Northeast Region



DAVID TIBBETTS/USFWS

Creating Homes for Wildlife at Rachel Carson National Wildlife Refuge

Saws whined and trees thumped the ground as loggers harvested oaks and pines. Using shovels, digging bars and plenty of elbow grease, volunteers planted native shrubs in old fields. These efforts at Rachel Carson National Wildlife Refuge in Maine are creating much-needed young forest homes for New England cottontails and a host of other wild creatures from tiny flycatchers to furtive bobcats.

The New England cottontail thrived in the brushy thickets along rivers and coastlines and became abundant as abandoned farms grew into young forest in the early to mid-20th century. Then, increased development and reforestation caused the rabbit's population to plummet as the thick habitat it needs became increasingly rare. Now, the New England cottontail is a candidate for protection under the federal Endangered Species Act and is already protected as endangered by the state of Maine.

The Rachel Carson National Wildlife Refuge, with help from the Defenders of Wildlife Volunteer Corps and funding from the National Fish and Wildlife Foundation, manages almost

New England cottontails can be found in Libby Field at Rachel Carson National Wildlife Refuge in Maine.

100 acres of habitat for the rabbit. Work takes place in the Brave Boat Harbor Division and Upper Wells Division in York County, as well as in the Spurwink River Division in Cumberland County.

At Brave Boat Harbor and Upper Wells, trees had grown too mature to provide habitat for cottontails. Their leafy crowns cut off sunlight, causing ground-covering food plants to die off. Leaving plenty of other middle-aged forest, a small number of trees were harvested as part of an effort to manage young forest across 25 acres. The area is now growing into a dense thicket and becoming great habitat for cottontails and other wildlife, such as the gray catbird, a type of shrubland bird.

"Most people don't tolerate natural processes that historically created shrubland, like fire and beaver-created floods," says Kelly Boland, Maine's New England cottontail restoration coordinator. "If we don't replace these natural processes, we will lose those critters that need shrublands to live, including the New England cottontail."

To add habitat next to the cleared trees, volunteers planted native shrubs including juniper, staghorn sumac, three kinds of dogwood and Virginia rose.

Conservationists tried a few other tactics to stimulate young forest in the Spurwink River Division. Cottontails live in one section of the division, and biologists expect the rabbits will continue to expand.

One technique is simplicity itself: stopping the mowing of grassy and weedy areas, and letting these areas sprout shrubs that will gradually and naturally become cottontail habitat. Managers have pruned some trees and shrubs to stimulate dense root sprouting, and they've planted native shrubs and seedlings of aspen and birch trees—fast-growing species that can quickly cloak the landscape with young forest.

Other methods are more dramatic. In 2010 and 2011, the employees used a big machine called a brontosaurus, whose

high-speed cutting head chewed off over mature trees and tired old shrubs. After this treatment, dense new young shoots popped up, and ideal cottontail habitat will be reached within a couple of years.

"Making habitat sometimes means a noticeable change to the landscape," Boland says. But the results are worth it, as shrublands provide habitat for a suite of wildlife including grouse, woodcock, eastern towhee, brown thrasher, common yellowthroat and spotted turtle as well as the cottontail. "We want people to understand that we're not just managing for one species."

But biologists, working closely with their neighbors, do hope to make a difference for the New England cottontail. The combined efforts of federal, state, non-profit and local partners across its six-state range are a promising step toward restoring New England's only native rabbit. □

CHARLES FERGUS

mountain-prairie

Living with Grizzlies

The grizzly bear is a creature of folklore and legends as a symbol of power, freedom and invincibility. Grizzlies became the symbol of the untamed Wild West, to be explored and conquered by European settlers. The perception that grizzlies were man-eating monsters threatening human existence made hunting them a necessity for pioneers and an attraction to adventurers.

It took more than three decades of hard work to reverse the decline of grizzly bears in the Yellowstone area brought on by these misguided perceptions. On March 22, 2007, the Service removed the Yellowstone population of grizzly bears from the list of threatened and endangered species, heralding 30 years of robust population growth, intensive scientific research, state and federal management efforts, and widespread public support for grizzly bear recovery. It is a success story that shows how far public understanding of grizzlies has come.

A lawsuit reversed the delisting, but the Service is evaluating whether to again propose delisting the Yellowstone grizzly population next year. And the recovery remains strong. The Yellowstone population has increased 320 percent since those efforts began in 1981, from 225 bears to more than 720 today.

Historically, more than 50,000 grizzlies roamed much of North America, from the mid-plains westward to California and Mexico and northward to Alaska. By the early 1900s, settlers hunted the grizzly almost to the point of extinction, with only 1,000 bears left in the lower 48.

There are five ecosystems where grizzlies can be found today: the Northern Continental Divide; in and around Yellowstone National Park; the Selkirk Mountains in northern Idaho and northeast Washington; the Cabinet-Yaak area in northern Idaho and western Montana; and the North Cascade mountain range.

"In the beginning, there was strong resistance from state agencies to consider grizzlies as a threatened species and getting the feds involved in management decisions," said Chris Servheen, the Service Grizzly Bear Recovery Coordinator, who has spent 30 years working toward the recovery of the grizzly. "In many places, I couldn't even get in the door. I knew that in order for change to happen, I had to get high-level decision-makers involved in the process."

So Servheen helped establish the Interagency Grizzly Bear Committee, composed of 11 federal and state agencies dedicated to implementing the Grizzly Bear Recovery Plan by coordinating education, research and management activities to recover the grizzly bear. "Listing a species under the Endangered Species Act is not enough to recover it," Servheen says. "We needed to dedicate the staff and resources to implement the tasks and actions identified in the recovery plan." >>

Catch of the Day



NICOLE MENARD/USFWS

An intern collects a rake that was tossed overboard to collect aquatic vegetation for identification during a shallow lake survey on Round Lake in Illinois.

Grizzlies, continued from page 23

Stakeholders agreed that cooperation and participation among federal and state agencies was in the best interest of the grizzly. The goal of the committee is to engage top-level decision makers at federal and state agencies in coordinating research, policy, management and planning activities to facilitate the recovery of the grizzly.

The committee's education campaign was specifically targeted to people who lived and worked in bear country. In addition, intensive education tools were also created to teach hunters and outdoor enthusiasts to recognize the signs of a grizzly, how to hunt elk and black bears safely in grizzly country, prevent

surprise encounters with grizzlies and protective measures to take if a bear encounter is unavoidable. Also, teaching visitors of Yellowstone National Park to properly dispose of trash and food and keep a clean campsite helped minimize the number of conflicts with bears.

Servheen has witnessed not only a change in bear numbers and habitat, but also a change of public attitudes. He recognizes that there will always be some level of conflict between humans and grizzlies, but he is determined to work with all the partners involved to build support and educate the public about living with grizzlies. □

VALERIE FELLOWS, Ecological Services, Headquarters



A grizzly bear wanders in Yellowstone National Park.

pacific southwest

California: A Hot Spot for Rare Species

With more than 300 threatened and endangered species, California has more federally protected animals than any other state, and it ranks second to Hawaii in the number of protected plants. A large number of these species are located along densely populated coastal areas, where they are threatened with habitat loss from urbanization.

Although the California condor, desert tortoise and Southern sea otter are well-known imperiled species of the Golden State, most protected species in California are less recognizable. But that does not mean they are not important. The Santa Cruz long-toed salamander, Pacific pocket mouse and vernal pool fairy shrimp are three small species that are rarely seen. While tiny, each plays a major role in maintaining ecosystem health in California, and the Service works with many valued partners to conserve these species and their habitat.

Santa Cruz Long-toed Salamander

Living along the central coast of California in southern Santa Cruz and northern Monterey counties, the Santa Cruz long-toed salamander is glossy black with metallic orange or yellow markings on its backside. While distinctive in appearance, it is



MARK PAVELKA/USFWS

(Top): The vernal pool fairy shrimp feeds on algae, bacteria and other microorganisms, and provides a high protein food source for some migrating waterfowl species. (Bottom): The Pacific pocket mouse was thought to be extinct in the wild by 1971 until being rediscovered in 1991.

very secretive and spends most of its adult life underground in small mammal burrows, under leaf litter and among the root systems of trees. During breeding season, the salamander returns to the shallow, primarily seasonal, freshwater ponds adjacent to its upland habitat area.



DWIGHT HARVEY/USEWS

The Pacific Pocket Mouse

One of the smallest rodents in North America, the Pacific pocket mouse measures just four inches in length and weighs slightly more than a quarter. Once common along the coast from Los Angeles County south to the border of Mexico, this diminutive mouse was no match for agricultural and urban development. Thought to be extinct in the wild by 1971, the species was rediscovered 20 years later at the Dana Point Headlands and listed as endangered in 1994. A year after listing, three additional small populations were found within Marine Corps Base, Camp Pendleton.

Efforts to recover the pocket mouse have largely focused on research to improve understanding of its biology and habitat affinities. For the past several years, San Diego Zoo Global has partnered with the Service to assist in developing a captive breeding program.

The vernal pool fairy shrimp is one of several species addressed by the Recovery Plan for Vernal Pool Ecosystems of California. Implementation of this recovery plan is a story of successful partnerships, and the efforts behind vernal pool conservation are gaining momentum. Last year, multiple state and federal agencies, conservation groups, and local organizations met for the third annual Vernal Pool Forum in Sacramento to discuss and collaborate on a variety of topics ranging from vernal pool mapping to the construction, management and monitoring of compensatory mitigation and restoration sites.

These three species are just a few of the many small but important creatures that help the Golden State remain healthy for people and wildlife.

PAM BIERCE, JANE HENDRON, STEPHANIE WEAGLEY, and ROBERT MOLER, Public Affairs, Pacific Southwest



DAVID PEREKSTA

A breeding site for the Santa Cruz long-toed salamander was discovered just this year.

When the salamander was initially discovered, only two breeding populations were known to exist: Valencia Lagoon and Ellicott Pond. The salamander was one of the first species to gain federal protection under the Endangered Species Preservation Act in 1967, a precursor to the Endangered Species Act. In 1973,

the California Department of Fish and Game purchased Ellicott Pond and designated it as an Ecological Reserve. In 1975, the Service established Ellicott Slough National Wildlife Refuge on surrounding lands, providing additional habitat for the salamander. Today, 25 known breeding sites exist, one of which was discovered as recently as 2013—the first in 10 years.

Vernal Pool Fairy Shrimp

Another often overlooked species is the vernal pool fairy shrimp, a tiny crustacean that measures an inch long, with a delicate elongated body, large stalked compound eyes and 11 pairs of swimming legs.

Listed as threatened in 1994, the vernal pool fairy shrimp lives in vernal pools, or seasonal ponds that fill with water during the rainy season. The fairy shrimp feeds on algae, bacteria and other microorganisms, and provide a high protein food source for some migrating waterfowl species.

FROM CREEK TO PLATE

Providing urban Anchorage youth with the tools to safely catch salmon from a local fishery



Learn how the Service's Fairbanks office reaches Alaska youth (see page 4).

Anchorage is Alaska's largest urban center with a population just shy of 300,000 people. A major jumping off point for the state's 1.5 million summer visitors, Anchorage is home to the world's busiest seaplane base (Lake Hood) and fifth busiest air cargo hub (Ted Stevens Anchorage International Airport). The Port of Anchorage receives 95 percent of all goods destined for Alaska.

Anchorage has big-city diversity with 95 languages spoken by Anchorage School District students (behind English, the top five are Spanish, Hmong, Samoan, Tagalog and Yup'ik). It also has areas of big city poverty, and the Service is targeting these in an effort to teach area youth about local fisheries and the outdoors.

In combination with its urban character, Anchorage offers some of the wildest outdoor opportunities in the country—135 miles of paved paths and 300 miles of unpaved and wilderness trails offering access to multiple river systems with all five species of Pacific salmon, close encounters with moose, migratory bird viewing and thousands of acres of wildlife habitat. Despite this close proximity, a surprisingly large number of Anchorage's urban residents are unaware of and/or do not have the means to access and enjoy outdoor opportunities literally within blocks of their homes and schools. Like most urban populations, cultural, socioeconomic and safety barriers (both real and perceived) prohibit some of Anchorage's residents from taking advantage of these outdoor opportunities.

As a conservation agency, the Service understands it needs to create opportunities for people, especially youth, to connect with nature—and help remove barriers to participation. One of the Service's six national priorities is: Connecting People with Nature, Ensuring the Future of Conservation.

In 2012–2013, the Service's Connecting People with Nature Working Group provided \$31,250 toward eight projects in Alaska that help connect people to nature (made possible by the Department of the Interior's Youth in the Great Outdoors Funding Initiative). One of the eight projects, "Creek to Plate," targeted youth from Anchorage's Northeast Muldoon Boys and Girls Club, a hub for 700-plus youngsters during non-school hours.

Like the Service, Anchorage Boys and Girls Clubs want to get kids outdoors. Research shows that kids who spend more time outdoors are generally

happier, healthier and do better in school.

According to the Muldoon Club's athletics director, many of the youth enrolled at Muldoon have never been exposed to fishing, nor do they (or the club) have the equipment or know-how to gain that experience on their own.

Until now.

Introducing youth to fishing in Alaska has many benefits. It gets them outdoors pursuing a healthy food source. Salmon and other Alaska native fish are well-known for their heart-healthy omega-3 fatty acids that also benefit brain development and function. Fishing also contributes significantly to the state's economy and funds generated from license fees and equipment help support fisheries management and conservation.

To connect Muldoon area youth to safe fishing opportunities nearby, Service staff from Fisheries, Subsistence and Marine Mammals partnered with the Alaska Departments of Fish and Game (ADFG) and Natural Resources (ADNR).

ADNR's Office of Boating Safety supplied "Kids Don't Float" life jackets and instruction on their proper use and coldwater safety. Thanks to a generous discount from B&J Sporting Goods in Anchorage, the Service was able to provide quality Chinook and coho salmon fishing equipment, which will stay permanently at the club along with the life jackets. With help from two giant stuffed salmon, ADFG provide lively instruction on fishing ethics, salmon identification and fishing regulations. The classroom portion of the day wrapped up with casting practice assisted by Service and ADFG staff.

With the basics down, 12 excited kids loaded into the Boys and Girls Club van and headed to Ship Creek, Alaska's most urban fishing spot—and one of the most frequented. It was August 1, and the coho salmon were just starting to show up. The trip started with a stop to see salmon schooling just below the Knik Arm Power Plant dam fish ladder near downtown Anchorage. A short walk downstream provided an opportunity to learn about salmon habitat and restoration. Then, everyone reached the

fishing spot—just below an old timber-trestle (now a pedestrian) bridge.

The fishing was slow—VERY slow—but there was never a dull moment. The new anglers experienced bird's nests (balls of tangled line), forgot to engage reel bails and crisscrossed lines. Other anglers seemed to give the group an extra wide berth.

The fish likewise stayed away, but enthusiasm continued to grow as casting techniques improved, fish were sighted from the bridge and other anglers allowed the kids to view and handle their catches of pink and silver salmon.

The final take-home message? It's called fishing, not catching... and there is more to fishing than catching. A nice, albeit fishless, day spent outside during the short but sweet Alaska summer was further improved with a shore-lunch among friends, and it ended with a tour of the new state-of-the-art William Jack Hernandez Sport Fish Hatchery further upstream and lucky photo-op with Alaska fish artist Ray Troll, visiting from Ketchikan.

The 700-plus youth enrolled with the Northeast Muldoon Boys and Girl Club now have direct access to the fishing gear and life jackets housed there. Service and state of Alaska staff will interact with some of these youth at least twice a year—when the kings are running in May and when the coho salmon move up river in August. The Service also purchased enough fishing equipment to make a loaner set available at another Boys and Girls Club in Anchorage.

With Anchorage serving as a gateway to Alaska's world class fisheries and 16 national wildlife refuges covering more than 76 million acres, this project took a small but important step toward engaging the next generation of conservation stewards in Alaska. □

KATRINA MUELLER, Fisheries, Alaska Region

MUSEUM OBJECTS COME TO LIFE

This is the second in a series of curiosities of the Service's history from the National Conservation Training Center Museum.

As the first and only curator of the museum, Jeanne M. Harold says the history surrounding the objects in the museum give them life.



"Shoot Anything That Eats Fish"

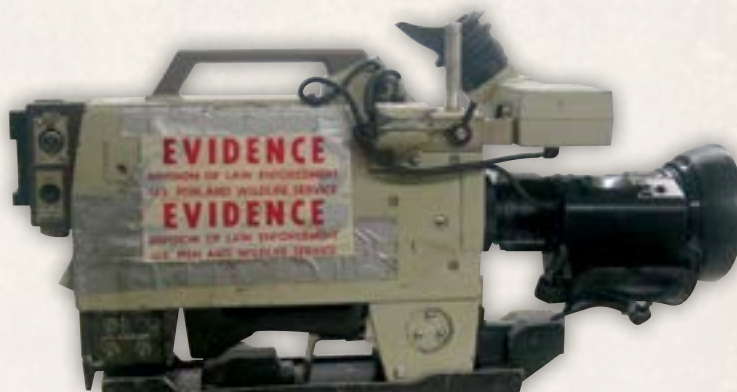
One of our retiree's duties in his first days at a fish hatchery was to protect the brood stock, new hatchlings and fingerlings in the fishery pools. Often fish-eating birds or mammals would stop by to get a buffet meal. He was handed a rifle and told "shoot anything that eats fish." He thought to himself, "Wait a minute, I eat fish!" He asked the hatchery manager, "Does that include people, too?"

"Does that include people, too?"

Blast Hole Fragment

How an island got a new name

The military has used the entire Aleutian Islands Unit of the Alaska Maritime NWR, conducting nuclear testing during the Cold War era, building bases, testing radar and more. We have a fragment of iron pipe donated by Clayton Hardy, from the blast hole set into the Earth for such a detonation on Amchitka Island. Retiree Jerry Grover told me that folks in the Regional Office had a joke about Amchitka Island. After being used as a detonation site, the RO folks referred to the Island as Amka, because the United States had bombed the "chit" out of it.



Ready, Aim, Smile

Retired Special Agent David Hall told numerous stories about the artifacts that he gave to the museum. My favorite is about one of his undercover cases where he was out on a boat with waterfowl poachers and he was filming their illicit poaching activities with a video camera. One of the poachers said to him, with a laugh, "I sure do hope you ain't a federal game officer." Dave replied, "Well son, if I am, you sure are in a heck of a lot of trouble!" Turns out, he was!

transitions

Headquarters



The Service has selected **Dr. Elsa Haubold** as the national LCC coordinator for the Landscape

Conservation Cooperative network. Dr. Haubold replaces Dr. Doug Austen, who served as national coordinator for three years. Elsa comes to the network with 12 years' experience working on wildlife diversity and endangered species issues at the state, regional and national level with the Florida Fish and Wildlife Conservation Commission. Elsa also brings non-governmental organizational experience, coordinating the Texas Marine Mammal Stranding Network for two years.

Elsa holds a Ph.D. in Experimental Pathology from the University of Texas, as well as a Bachelor of Science in Wildlife and Fisheries and Master of Science in Veterinary Anatomy from Texas A&M University. She also holds a Master of Business Administration from the University of Houston Clear Lake. □

Pacific Southwest



Marge Kolar, refuge chief in the Pacific Southwest Region, retired in September.

Marge had been the Assistant Regional Director for the National Wildlife Refuge System in the Pacific Southwest Region since 2005. In that role, she oversaw 50 wildlife refuges in California, Nevada and the Klamath Basin of Oregon—totaling more than 2 million acres of habitats. She has worked in private industry as well as the federal government for more than 30 years in education, research, planning, regulatory functions and land management.

She started her federal career with a three-year stint in the Peace Corps as a high school physics and mathematics teacher in Sierra Leone, West Africa. After several years in the private sector, Marge joined the Service's Office of Biological Services in Washington, DC, working on the National Wetlands Inventory and other wetland issues. She then moved to the Service's Washington/Oregon Area Office in Olympia, Washington, and worked as the Habitat Protection coordinator, developing proposals for refuge land acquisition and working with other organizations to protect important habitats. During her time in the Area Office, Marge also was the assistant area manager for Environment and Endangered

Species, supervising three ecological services field stations. Her next move was to the East Lansing, Michigan, Ecological Services Field Office where she was the assistant field supervisor and acting field supervisor from 1982–1989. Marge returned to Headquarters in 1989 to work in the Division of Habitat Conservation on Federal Energy Regulatory Commission issues. During her last three years in Washington, she was the branch chief for Federal Activities.

Marge moved to the National Wildlife Refuge program in 1994. For 11 years, she served as the refuge manager for the San Francisco Bay National Wildlife Refuge Complex, overseeing seven unique San Francisco Bay and Monterey Bay area refuges. While managing those refuges, Marge received a Department of the Interior Meritorious Service Award in 2002 and the U.S. Fish and Wildlife Service Realty Division's Land Legacy Award in 2004, in part for her work on acquiring 16,500 acres of Cargill salt ponds in San Francisco Bay.

She received a master's degree in Fisheries and Wildlife from Michigan State University and an undergraduate degree in Physics and Math from the University of Detroit.

In retirement, Marge plans to travel and join the volunteer community, helping with environmental education programs at local wildlife areas. □

Alaska

Andrea Medeiros has joined the External Affairs Program in Alaska as a public affairs specialist. She serves as the primary point of contact for news media, prepares regional and national news releases, serves as the regional spokesperson and edits material as needed in support of regional programs. She also has responsibility for the region's website and some social media accounts.

Andrea has 22 years of experience with the Service beginning in 1991 as a volunteer with the Innoko National Wildlife Refuge. Over the course of her career, Andrea has worked as a biological science technician for Refuges, a fisheries biologist for the Conservation Genetics Laboratory, and a technical writer/publication specialist and outreach coordinator for the Office of Subsistence Management. Andrea also has experience with External Affairs, International Conservation, Water Resources and the Fisheries Program through details and the Student Career Experience Program. In each of her roles, she has contributed greatly to the Service's mission.

In addition to her work experience, Andrea holds a Bachelor of Science Degree in Biology from West Chester University. □

honors

Headquarters



Abigail Lynch, a Pathways student in the Division of Fish and Aquatic Conservation and associate editor of FAC's *Eddies* magazine, has been awarded the American Fisheries Society J. Frances Allen Scholarship established to encourage women to become fisheries professionals. Abby, a doctoral student at Michigan State University's Center for Systems Integration and Sustainability, works remotely out of MSU for Headquarters. She is a doctoral student in Fisheries and Wildlife with a dual major in Ecology, Evolutionary Biology and Behavior, a doctoral specialization in Environmental Science and Public Policy. Since joining MSU in 2009, she has published four peer-reviewed papers, two guest columns, one book chapter, two co-edited books and four outreach articles; she has presented at three national conferences and four international conferences; and she has received numerous awards that recognize her excellence in science and policy. □

PHOTO COURTESY OF MICHIGAN STATE UNIVERSITY CENTER FOR SYSTEMS INTEGRATION AND SUSTAINABILITY

Recent graduates of the Service's prestigious **Advanced Leadership Development Program** have honored **Brian A. Millsap** (national raptor coordinator for the Service's Migratory Bird Program) with the Ira Gabrielson Conservation Leadership Award. Established in 2002, the Ira Gabrielson Conservation Leadership Award recognizes an outstanding Service employee making a significant contribution to conservation and reflects the powerful commitment and leadership qualities of Dr. Gabrielson, the first Director of the Service. Each year's ADLP class selects a conservation leader for this award, which is presented as a part of the current year's graduation ceremony. Past recipients of the Ira Gabrielson Conservation Leadership Award include Dale Hall, Mamie Parker, Sam Hamilton, Jim Kurth and Robyn Thorson. □



Lewis E. Gorman III, the partnerships coordinator for Ecological Services-HQ, won the 2013 Camden County (New Jersey) Freedom Medal, which is awarded for "Exemplifying the Spirit and Vision of Dr. Martin Luther King Jr."



Dworshak National Fish Hatchery staff.

Gorman led development of a network of trails on Cherry Hill Township's Open Space Lands. In the last five years alone, he has contributed more than 1,000 volunteer hours toward this goal of establishing more than 10 miles of trails in eight locations and related actions to improve Cherry Hill Open Space lands. He has worked with local governments, religious institutions, Boy and Girl Scouts, the county environmental commission, as well as the Service and the National Park Service. He guided more than 10 Boy Scouts to achieve the rank of Eagle Scout by completing their Eagle Scout project on Cherry Hill Open Spaces creating nature trails and trail improvements. □

In July, the Service announced the recipients of the **Environmental Leadership Awards**. These awards recognize the Service's offices and employees for their exceptional achievements in sustainable design/green buildings, recycling, waste/pollution prevention, energy efficiency and renewable energy, environmental management systems, environmental cleanup/

restoration, minimized petroleum use in transportation, and green purchasing.

■ **Dworshak National Fish Hatchery** (staff seen above) in Idaho was recognized with the Hatchery of the Year Award. The hatchery has made significant infrastructure improvements since the spring of 2010. The majority of these changes have integrated energy and water efficiency improvements while also maintaining or improving fish rearing conditions. As a result of the efficiency projects, enough clean hydroelectric power was made available for distribution across the grid to provide the annual power requirements of approximately 1,500 homes.

■ **Parker River National Wildlife Refuge** in Massachusetts received the Refuge of the Year Award for being a good neighbor by improving the water quality in the Plum Island Sound watershed through a Slow the Flow campaign.

■ **Ohio River Islands National Wildlife Refuge** in West Virginia received a Facility/Office Environmental Leadership Award for green innovation after completing a bank stabilization project that reestablished the Buckley Island shoreline. **Terry Boyer**, who monitors the performance of renewable energy initiatives at Ohio River Islands, received the Individual Environmental Leadership Award for being a sustainability hero.

■ **Texas Chenier Plain National Wildlife Refuge Complex's** Winnie Depot and Visitor Center-Headquarters each also received a Facility/Office Environmental Leadership Award for LEED-certified buildings that take advantage of design innovation, operational efficiency and sustainable practices, including photovoltaic systems that provide solar power. □

The States Organization for Boating Access (SOBA) has honored several Service employees who have continually worked to promote boating access and provide better boating experiences for state residents and tourists.

■ **Doug Hobbs**, the chief of the Service's Office of Partner Liaison and the designated federal officer for the Sport



Fishing and Boating Partnership Council, has received the 2013 Outstanding Service Award for his contributions to improve access for boaters and anglers. SOBA says Hobbs "has exhibited a degree of commitment to the council and an understanding of its issues that is outstanding and extends far beyond mere professional responsibility." He was also honored because of his work with the boating and fishing community on various council priorities, all of which improved the council's efficiency and stature. In addition, SOBA cited his work in making boating-oriented initiatives equal to fishing goals, his appreciation of the role of recreational boating in American life today and his advocacy for boater access to the water.

■ **Joyce Johnson**, the special assistant for program analysis and development for the Service's Wildlife and Sport



Fish Restoration Program, received the 2013 Special Recognition Award, which honors efforts that are directly illustrative or supportive of SOBA's mission. Johnson has worked to address a wide range of issues associated with the administration of federal grant programs that distribute more than \$1 billion annually to state and local governments for recreation and natural resources conservation purposes, SOBA says. Johnson has worked on water issues for more than 30 years with the Service, Texas Parks and Wildlife and the Corps of Engineers. SOBA calls her a mentor and friend and says, "Through her experience, her knowledge and her approach to issues she has made a lasting impression on the recreational fishing, boating and hunting programs that will endure into the future." □

Pacific

Richard Bare has received the Pacific Region 2012 Federal Wildlife Officer of the Year. This award recognizes an officer for outstanding achievement in the field of conservation law enforcement. According to Officer Bare's supervisors, "His passion and abilities in making cases for the protection of our nation's wildlife resources has earned him the respect and admiration of the federal wildlife officers of the National Wildlife Refuge System and with our accompanying state and local partners. He has taken the wildlife enforcement cases to new levels of investigation by tracking potential violators on land and through cyberspace."



Says Bare: "I've always wanted to be a conservation law enforcement officer. This is right where I've always wanted to be."

The National Wildlife Refuge System's Division of Law Enforcement investigates wildlife crimes, regulates wildlife trade, helps Americans understand and obey wildlife protections laws, and works in partnership with international, state and tribal counterparts to conserve wildlife resources. □

Pacific Southwest



Bob Shaffer, coordinator of Central Valley Joint Venture (CVJV), has won the North American

Waterfowl Management Plan's 2012 National Blue-winged Teal award. The National Blue-winged Teal award recognizes partners whose activities at the national, regional or local level result in substantial benefits to waterfowl, other wetland-associated migratory bird populations or wetlands habitats. Shaffer was recognized for his dedication and commitment to the conservation of avian and other wildlife resources. His many achievements have provided significant benefits to waterfowl, other migratory birds and their habitats in California's Central Valley. Using skill, determination, and sometimes humor, Shaffer has provided 14 years of exceptional leadership for the CVJV. In collaboration with the CVJV Management Board, his work has contributed to the conservation of more than 500,000 acres of migratory bird habitat.

Shaffer realized early in his almost 40-year career that water would play an important role in the management of healthy and sustainable bird populations in California. Since the mid-1980s, he has worked tirelessly to see that Central Valley refuges receive the amount of water needed to support healthy waterfowl resources. This interest in refuges and water issues led him to become the study manager for the Refuge Water Supply Report to Congress in 1989, which provided the basis for the most important refuge water supply legislation to date, the Central Valley Project Improvement Act of 1992. □

Southeast



Phillip DeGarmo (left) of the Service's Kentucky Ecological Services Field Office has won the Service's 2013 Transportation Environmental Stewardship Excellence Award for work with transportation

agencies to conserve the endangered Indiana bat. DeGarmo used a partnership-based approach with the Kentucky Transportation Cabinet and Federal Highway Administration's Kentucky Division. The team developed a programmatic approach to Endangered Species Act Section 7 compliance that integrates Indiana bat conservation into the transportation planning and project development processes. "With the development of a Programmatic Biological Opinion as well as a Programmatic Conservation Memorandum of Agreement among partners, Mr. Phillip DeGarmo established a consistent and efficient environmental review process that minimizes adverse impacts to the Indiana bat and contributes to the Kentucky Field Office's statewide conservation and recovery goals for the species," the awards says. □

Southwest

Jennie Duberstein won the Partners in Flight Public Awareness Award, which recognizes outstanding achievement in bird conservation throughout the Americas. Duberstein works in Arizona as the Service's education and outreach coordinator for the Sonoran Joint Venture (SJV). The SJV's mission is to conserve the

unique birds and habitats of the southwestern United States and northwestern Mexico, and it brings together groups from both sides of the border. Duberstein's work in the United States and Mexico brings training and materials to communities, schools and biologists, and shares critical bird conservation messages across borders. As chair of the National Joint Ventures Communications/Education/Outreach Team, she developed a strategy that raised the profile of joint ventures among members of Congress. □

Midwest

Thomas Will won the Partners in Flight Outstanding Contributions to Bird Conservation award. Will works in Minnesota as a wildlife biologist for the Service. He tackles important challenges facing migratory birds, such as the need to better understand anthropogenic causes of bird mortality. His leadership has resulted in diverse partnerships and highlighted the importance of full lifecycle conservation, especially considering the impacts of climate change on birds. □

in memoriam

Headquarters



Emalie Fogg, a former administrative assistant in the Service's External Affairs Program in Headquarters,

died July 25 at her home in New Hampshire after a battle with gastroparesis.

Emalie was recognized for her dedication and professionalism during her job search and her demonstrated accomplishments with the Champions in Professional Development award in 2011 from the Virginia Department for Aging and Rehabilitative Services.

A 2009 graduate of Keene State College with a B.A. in U.S. History, Emalie started her career with an internship at the Smithsonian Institution, the world's largest museum and research complex. After her internship ended, Emalie did a fellowship in disability politics at a program with the National Collaborative on Workforce and Disability for Youth.

Her kindness and positive attitude, even in the face of seemingly insurmountable obstacles, is missed. □

Mountain-Prairie



Dr. **Robert Klumb**, project leader at the Service's Great Plains

Fish and Wildlife Conservation Office in South Dakota, and **Maegan Spindler**, a Service biological technician, were hit



and killed by a vehicle on July 8. Rob, Maegan and the rest of a research crew had

completed a day of field work near Pickstown, South Dakota, and were in the parking lot of their hotel preparing their boat for the next day's work when they were killed. The driver faces charges of driving under the influence of alcohol or drugs.

Rob started his academic career at the University of Wisconsin-Milwaukee where he earned two B.S. degrees, one in Biology and the other in Conservation of Natural Resources. He earned his M.S. in Natural Resources at University of Wisconsin-Stevens Point. Rob then earned his Ph.D. in 2002 at Cornell University where he studied the role of Lake Ontario nearshore habitats as nursery areas for larval and juvenile alewives. Rob started his 10-year career as a fisheries biologist in the Great Plains

Fish and Wildlife Conservation Office in 2002. He demonstrated exceptional skills as a biologist and a mentor and was promoted to a project leader position in 2009. Rob played many important roles in the Service's multipartner effort to recover the endangered pallid sturgeon and to restore the Missouri River. Rob is remembered by his colleagues as a brilliant biologist and as an exceptional mentor for his staff and students at South Dakota State University (where he served as an adjunct professor).

Maegan began her first position with the Service this spring and already stood out as a dedicated and passionate

fisheries biologist. She was most recently from Cazenovia, New York, and earned a B.S. degree in Wildlife Science from the State University of New York College of Environmental Science and Forestry at Syracuse. Afterward she earned a fisheries diploma from Vancouver Island University in British Columbia. Before working for the Service, Maegan worked two years for Wyoming's Department of Game and Fish as a fisheries technician. According to her friends and colleagues, her passion for enjoying the gifts of nature and working with fish and wildlife shone brightly.

Both Rob and Maegan will be greatly missed by their families, the Service and the world of conservation. □

A Kid Could Paint That...And One Did



Ava Bribiesco, then a kindergarten student from St. Louis, Missouri, won the grand prize in the 2013 Endangered Species Day Youth Art Contest in May with her painting of the American burying beetle. The art contest is an integral part of the national Endangered Species Day. It gives children a chance to learn about endangered species and their importance as well as hone their artistic skills.

Fish & Wildlife *News*

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parting shot

The One that Got Away. Slippery little guys, those rainbow trout. Robert, with the help of Deputy Regional Director Richard Hannon nearly let one get away. But not too worry, Robert managed to catch his limit at the FWS Cast for Kids Fishing Event.



USFWS

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Editorial adviser: Craig Rieben, Chief,
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Arlington, VA 22203
703/358-2512
Fax: 703/358 1930
E-mail: matthew_trott@fws.gov

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